

### **REMARKS**

Claims 1, 4-6 and 9-72 are pending in the instant application. Claims 22-57 have been withdrawn and claims 2, 3, 8 and 64 have been canceled in previous actions. Claims 4, 58, 63 and 68 have been amended, claim 66 has been canceled and claim 73 is new, leaving claims 1, 4-6, 9-63 and 65, 67-73 for consideration. Claims 58-62 have been rejected under 35 U.S.C. 112, second paragraph. Further, claims 58-62, 63, 65, 67-70 and 72 have been rejected under 35 U.S.C. 103(a). The Examiner has indicated that claims 1, 4-6 and 9-21 are allowed while claim 4 is objected to as being dependent upon a canceled claim but would be allowable if rewritten in to correct claim dependency. Applicants cordially thank the Examiner for indication of the same. No new matter has been entered by this amendment.

#### **Claim Objections**

Claim 4 stands objected to because of informalities. The Examiner states that claim 4 depends on claim 2, which has been cancelled. The Examiner further states that for purposes of comparison with the prior art the Examiner assumed claim 4 to be dependent on claim 1. Claim 4 has been amended to depend from claim 1 instead of canceled claim 2.

Accordingly, it is respectfully requested the objection to claim 4 be withdrawn.

#### **Rejections Under 35 USC § 112**

Claims 58-62 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for allegedly failing to particularly point out and distinctly claim the subject matter which the applicants regard as the invention. The Examiner states that the limitation *the triangular grooves being linked together* in independent claim 58 is unclear. The Examiner further states that claims 59-62 stand rejected for their dependency on claim 58. Applicants respectfully traverse.

Claim 58 has been amended to recite "V-shaped grooves" instead of "the triangular grooves" finding support at least in FIGS. 3-5 as originally filed.

Accordingly, it is respectfully requested the rejection to claim 58, including claims depending therefrom, i.e., claims 59-62 under § 112, second paragraph, be withdrawn.

**Rejections Under 35 USC § 103**

Claims 58-63, 65, 67-70 and 72 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Ryu et al. (U.S. Patent Publication No. 2002/0181223, hereinafter "Ryu") in view of Ishikawa et al. (U.S. Patent No. 5,600,455, hereinafter "Ishikawa"). Applicants respectfully traverse.

The Examiner states that Ryu discloses all of the elements of claims 58-62 except, *the prism pattern being elongated in a specific direction and the dots having a cross-sectional profile of triangular grooves*, which the Examiner further states is disclosed in FIGS. 7 and 10, and paragraphs 42-44 of Ishikawa. In the same section the Examiner states that Ryu fails to disclose *the protrusion having substantially identical size with the number of protrusion per unit area decreasing as the distance to the incident surface increases* as recited in claim 61 (the Examiner stated "claim 70" in the Office action, but this is believed to be a mistake as claim 70 is specifically addressed in a separate section and is dependent from a different independent claim but includes many of the same limitations as claim 61) which the Examiner further states would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust the number of protrusions per unit area based on the distance from the light incident surface.

The Examiner states that Ryu discloses all of the elements of claims 63 and 65-72 except, *the geometrically regular pattern being a plurality of microgrooves and the micro grooves being linked along a boundary of the protrusions*, which the Examiner further states would have been obvious to one of ordinary skill in the art at the time the invention was made as evidenced by Ishikawa. The Examiner also states that Ryu fails to disclose *the depth of each microgroove being different and the fine structures having a different height*, which the Examiner further states would have been obvious to one of ordinary skill in the art at the time the invention was made as per the teachings of Ryu.

Independent claim 58 recites, inter alia, a protrusion part formed as a column shape on the first light emission surface; and a light reflection pattern formed on an upper surface of the protrusion part, for reflecting light toward the second light emission surface, the light reflection pattern including a plurality of dots, each of the dots having a cross-sectional profile of V-shaped

grooves on a corresponding dot, the V-shaped grooves being linked together and elongated in a specific direction, the direction aligned parallel with the light incident surface. Likewise, independent claim 63 recites, *inter alia*, first and second light emission surfaces for emitting light; wherein the first emission surface includes a plurality of protrusions having a geometrically regular pattern, wherein the geometrically regular pattern is a plurality of microgrooves, and wherein depth of each of the microgrooves is different.

The Examiner admits on page 5 of the Detailed Action that Ryu et al. do not disclose the prism pattern being elongated in a specific direction or the dots having a cross-sectional profile of triangular grooves (now V-shaped grooves as amended) as recited in claim 58. Further, the Examiner admits on page 9 of the Detailed Action that Ryu et al. do not disclose the geometrically regular pattern being a plurality of microgrooves as recited in claim 63.

However, the Examiner relies on a separate transparent member (1) in FIG. 7 of Ishikawa et al. for these missing limitations. It is respectfully submitted that combination of Ryu et al and Ishikawa et al. teach away from the present application as Ishikawa et al. disclose a separate transparent member (1) disposed **above** a light guide plate (3) having a diffusion plate (7) disposed therebetween, as illustrated in FIG. 1 of Ishikawa et al.

On the contrary, the present application discloses **a light guide plate** for maximizing the luminance on a display panel of an LCD device without increasing the number of components for the LCD device. (See page 3, lines 5-7 of the specification as originally filed.) Furthermore, independent claim 63 recites wherein the first emission surface [of the light guide plate] includes a plurality of protrusions having a geometrically regular pattern, wherein the geometrically regular pattern is a plurality of microgrooves, and similarly claimed in independent claim 58. Neither Ryu et al. nor Ishikawa et al. disclose a light guide plate having an emission surface as claimed in either of claims 58 or 63.

The light guide plate including a light reflection pattern in claim 58 of the present application designed for an edge type reflects and refracts incident light in perpendicular direction toward an LCD panel to improve the brightness of the LCD panel. On the contrary, a transparent member 1 in FIG. 6 of Ishikawa et al. (U.S. Patent No. 5,600,455) is a light guide plate for a light source device 3 is designed for a direct downloaded type and the coarse surface 11 on the prism of the transparent member 1 functions as light diffusing member to improve light

uniformity over the light guide plate.

Therefore, the function of the transparent member 1 in Ishikawa et al. and the function of the light guide plate in claim 58 in the present application are completely different from each other. Because of the reason mentioned above, the direction and structure of the V-shape pattern is different. The V-shape pattern (or triangle pattern) of Ishikawa et al. is headed toward an LCD panel, whereas the V-shape pattern (or triangle pattern) of the present application is headed toward an opposite direction to the direction of V-shapes of Ishikawa et. al.

In addition, Ishikawa et al. does not disclose the V-shape pattern (or triangle pattern) elongated in a specific direction, which is aligned parallel with a light incident surface of the light guide plate. The light guide plate recited in claim 58 of the present application includes “a light reflection pattern including a plurality of dots, and each of the dots having a cross-sectional profile of V-shaped grooves being linked together and elongated in a specific direction, the direction aligned parallel with the light incident surface.”

More specifically, neither Ryu et al. nor Ishikawa et al., either alone or in combination, teach or suggest a protrusion part formed as a column shape on the first light emission surface; and a light reflection pattern formed on an upper surface of the protrusion part, for reflecting light toward the second light emission surface, the light reflection pattern including a plurality of dots, each of the dots having a cross-sectional profile of V-shaped grooves on a corresponding dot, the V-shaped grooves being linked together and elongated in a specific direction, the direction aligned parallel with the light incident surface, as in claim 58. Likewise neither Ryu et al. nor Ishikawa et al., either alone or in combination, teach or suggest first and second light emission surfaces for emitting light; wherein the first emission surface [of the light guide plate] includes a plurality of protrusions having a geometrically regular pattern, wherein the geometrically regular pattern is a plurality of microgrooves, as in claim 63. Thus independent claims 58 and 63, including claims depending therefrom, i.e., claims 59-62 and 65-72, define over Ryu et al. in view of Ishikawa et al.

Accordingly, it is respectfully requested the rejection to claims 58 including claims depending therefrom, i.e., claims 58-63, 65, 67-70 and 72 under § 103 be withdrawn.

## CONCLUSION

In view of the foregoing, it is respectfully submitted that the instant application is in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and a Notice of Allowance issued. If the Examiner believes that a telephone conference with Applicants' attorneys would be advantageous to the disposition of this case, the Examiner is cordially requested to telephone the undersigned.

In the event the Commissioner of Patents and Trademarks deems additional fees to be due in connection with this application, Applicants' attorney hereby authorizes that such fee be charged to Deposit Account No. 06-1130.

Respectfully submitted,

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